

## **AMENDMENTS TO THE SPECIFICATION**

Please amend the specification to include the following section heading and paragraphs after paragraph [0008] of the published application having publication number 2007/0238641:<sup>1</sup>

### **BRIEF DESCRIPTION OF THE FIGURES**

Figure 1A shows the dose-dependent comparison of the decrease in mean arterial pressure (MAP) in the rabbits after bolus administrations of nitrosated serum albumin with and without a simultaneous continuous infusion of reduced glutathione (2.2  $\mu\text{mol/kg/min}$ ).

Figure 1B is a representative example of the decrease in mean arterial pressure with a bolus infusion of 0.1  $\mu\text{mol/kg}$  of S--NO--HSA with and without a continuous infusion of reduced glutathione (2.2  $\mu\text{mol/kg/min}$ ).

Figures 1C-1D show the decrease in mean arterial pressure with two different dosages of a nitrosated serum albumin preparation having a high degree of nitrosation (70%) and a native serum albumin nitrosated equimolarly to the freely available thiol group and having a low degree of nitrosation (26%), with a simultaneous infusion of reduced glutathione.

Figure 1E is a representative example of the decrease in mean arterial pressure by in vivo bolus injections of 0.1  $\mu\text{mol/kg}$  of S--NO--HSA with variable concentrations of glutathione (GSH).

Figure 1F is a representative example of the decrease in mean arterial pressure by a simultaneous, continuous infusion of 0.05  $\mu\text{mol/kg/min}$  of S--NO--HSA, with an increasing concentration of reduced glutathione (a: 0.0  $\mu\text{mol GSH/kg/min}$ , b: 0.1  $\mu\text{mol GSH/kg/min}$ , c: 0.3  $\mu\text{mol GSH/kg/min}$ ).

Figure 2A shows the concentration-dependent potentiation of the NO-release of a nitrosated serum albumin preparation by reduced glutathione, measured in vitro with a porphyrinic microsensor.

Figure 2B shows a representative example of the in vitro measurement of the potentiation of the NO-release of a nitrosated serum albumin preparation by reduced glutathione.

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<sup>1</sup> The amendments to the specification are recited in connection to the pre-grant publication having publication number 2007/0238641. Applicant believes making the amendments to the specification will be easier to implement when referenced to the published application.

Figure 3A shows the dose-dependent potentiation of the inhibition of the collagen-induced platelet aggregation by S--NO--HSA (2-4  $\mu\text{mol/L}$ ) with reduced glutathione.

Figure 3B the effect of N-acetyl cysteine (1 mmol/L), ascorbic acid (Vit.C; 200  $\mu\text{mol/L}$ ), reduced glutathione, homocysteine, taurine and cysteine (1 mmol/L in each case) on the inhibition of the collagen-induced platelet aggregation by S--NO--HSA (2-4  $\mu\text{mol/L}$ ).

Please amend paragraph [0001] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

The present invention relates to a pharmaceutically combined preparation containing a therapeutic protein having SH-groups which are nitrosated.

Please amend paragraph [0004] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

In general, with sulfur-containing groupings in proteins, one can basically distinguish between groupings which are present in a firmly bound and associated form, respectively, e.g., as intramolecular saturated disulfide bridges, and are crucial for the conformation of the proteins, and groupings which represent the potentially free thiol group(s). The latter constitute a known quantity for the respective protein. Human serum albumin (HSA), for instance, has a single potentially free thiol group per molecule in the native state, namely the cysteine in position 34. However, those potentially free thiol groups tend toward the formation of intermolecular disulfides, which is why they are also referred to as mixed disulfides. In the plasma, up to 80% of those thiol groups are provided as mixed disulfides and are thus not directly available as free thiol groups.

Please amend paragraph [0009] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

It is the object of the present invention to increase the physiological effect of proteins containing nitrosated sulfhydryl groups (SH-groups).

Please amend paragraph [0010] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

According to the invention, said object is achieved by a pharmaceutically combined preparation which contains a therapeutic protein having SH-groups which are nitrosated and a compound containing thiol groups and having an average molecular weight of at most 10,000 ~~10,000~~. By the term "thiol groups", sulfhydryl groups (--SH) and disulfide groups (--S--S--) are understood.

Please amend paragraph [0012] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

As the therapeutic protein having nitrosated SH-groups that is contained in the pharmaceutically combined preparation according to the invention, S-nitroso albumin, S-nitroso orosomucoid, S-nitroso plasminogen activator, S-nitroso fibrinogen, S-nitroso Lys-plasminogen or S-nitroso haemoglobin is particularly preferred.

Please amend paragraph [0013] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

As the compound containing thiol groups that is contained in the preparation, reduced glutathione (GSH), L-cysteine, N-acetyl cysteine, L-cysteinyl glycine,  $\gamma$ -glutamyl cysteine, penicillamine, penicillamide, N-acetyl penicillamine, N-acetyl penicillamide, homocysteine, captopril, dihydrolipoic acid and/or the oxidized form thereof, which, after administration, is reduced in vivo, is/are particularly preferred.

Please amend paragraph [0014] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

It has been shown that a further preferred embodiment of the pharmaceutically combined preparation according to the invention contains S-nitroso albumin as the therapeutic protein having nitrosated SH-groups and reduced glutathione as the compound containing thiol groups.

Please amend paragraph [0016] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

A further embodiment of the pharmaceutically combined preparation according to the invention consists in that a therapeutic protein obtained by nitrosation is contained in which the degree of nitrosation is made up of S-nitrosation by at least 90% and of N,O,C-nitrosation by at most 10%.

Please amend paragraph [0032] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

The nitrosation is preferably carried out with an agent selected from  $\text{HNO}_2$ ,  $\text{HNO}$ ,  $\text{NOCl}$ ,  $\text{NO}^+$ ,  $\text{RNO}_2$ ,  $\text{N}_2\text{O}_3$ ,  $\text{N}_2\text{O}_4$ ,  $\text{NO}_2^-$  and NO-radical and in an acid medium. Organic NO-donors can also be used.

Please amend paragraph [0057] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

The analysis can be performed prior to or after the purification by means of preparative gel permeation chromatography. In this method, surplus nitrosating agent and buffer substances, if present, are separated from S--NO-albumin/albumin using a gel permeation column (Toyopearl TSK HW-40-S). Subsequently, the NO-group is cleaved selectively from an S-nitrosated compound ( $\text{RS--NO}$ ; where R represents a compound having the S-nitrosated group) by  $\text{Hg}^{2+}$  in a postcolumn derivatization process via the Saville reaction (Saville B., Analyst 83 (1958), 670-672). Simultaneously, the nitrite which has developed is detected photometrically at 541 nm by means of a colour reaction (Griess reaction; Griess, Ber. Dtsch. Chem. Ges. 12 (1897), 426-428). The chromatograms (FIG. 4) show equimolarly nitrosated S--NO--HSA preparations with different S-nitroso levels: a) human albumin nitrosated equimolarly to the free SH-group and

having a content of free SH-groups per mole of protein of 26%; b) human albumin nitrosated equimolarly to the free SH-group, which, due to a reductive pretreatment, had a content of free SH-groups per mole of protein of 74%; c) analogous to b) except for that nitrosation did not occur in an equimolar fashion but with a 6-fold molar excess of nitrosating agent.

Please amend paragraph [0063] the specification of the published application having publication number 2007/0238641 with the following marked-up paragraph:

The rabbit was anaesthetized, whereby the anaesthesia was initiated with ketaset (50 mg/kg; bolus) and xylasine (5 mg/kg; bolus) and was maintained with a continuous infusion of ketaset (35 mg/kg/h) and 5 mg of xylasine (5 mg/kg/h), dissolved in physiological saline (5 mL/h), via the vena auricularis. After tracheotomy and intubation, the rabbits were attached to the respirator (Ventilator Harvard Apparatus-INSPIRA ASV) (tidal volume= $0.0062 \times \text{body weight (kg)}^{+0.1, 0.1}$ , respiration rate= $53.5 \times \text{body weight (kg)}^{+0.26, 0.26}$ ).